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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Consider
Streamlining Interconnection of Distributed
Energy Resources and Improvements to
Rule 21.

Rulemaking 17-07-007

(NOT CONSOLIDATED)

Order Instituting Rulemaking to Consider
the Development of Rates and
Infrastructure for Vehicle Electrification

Rulemaking 18-12-006

**JOINT ADMINISTRATIVE LAW JUDGES' RULING ESTABLISHING
SUBGROUP AND SCHEDULE TO DEVELOP PROPOSAL ON MOBILE
INVERTER TECHNICAL REQUIREMENTS FOR RULE 21 AND NOTICING
WORKSHOP**

A Vehicle to Grid Alternating Current (V2G AC) Interconnection subgroup is established in Rulemakings (R.) 17-07-007 and 18-12-006 to discuss and identify existing standards to fulfill safety requirements for the interconnection of a mobile inverter. The Director of the Commission's Energy Division is authorized to facilitate the administration of the subgroup with the first meeting to be held via conference call on September 11, 2019 beginning at 10:00 am. A final subgroup report shall be filed in R.17-07-007 and R.18-12-006, no later than December 6, 2019. A joint workshop in both proceedings shall be held on December 17, 2019. Post workshop comments shall be filed in R.17-07-007 and

R.18-12-006 on January 6, 2020 and reply comments shall be filed on January 13, 2020.

1. Background

The Commission initiated Rulemaking (R).17-07-007 to consider a variety of refinements to the interconnection of distributed energy resources under Electric Rule 21. The October 2, 2017 scoping memo for R.17-07-007 established a series of working groups to discuss and develop proposals to address the issues of the proceeding. One of these working groups, Working Group 3, is tasked with developing solutions to several scoped issues in R.17-07-007, including issue 23. Issue 23 asks whether and how the Commission should consider issues related to the interconnection of electric vehicles and related charging infrastructure and devices. Relatedly, the Commission opened R.18-12-006 to continue the development of rates and infrastructure for vehicle electrification. The scoping memo for R.18-12-006, also known as the DRIVE Rulemaking, calls for alignment with transportation electrification and transportation electrification-related programs and policies being developed through other Commission proceedings, including R.17-07-007, the Rule 21 Rulemaking.

On May 29, 2019, the California Energy Storage Alliance (CESA) filed a motion, in both R.17-07-007 and R.18-12-006, requesting the Commission establish a Vehicle to Grid Alternating Current (V2G AC) Interconnection subgroup jointly in these two proceedings (CESA Motion). CESA proposes the purpose of the subgroup would be to discuss and identify existing standards that can be combined to fulfill safety requirements for the interconnection of a mobile inverter. As part of the process, CESA recommends the Commission schedule a joint workshop in both proceedings to present the group's findings and recommendations.

On June 6, 2019, Nuvve Corporation (Nuvve) filed a response in R.17-07-007 and R.18-12-006 supporting the CESA Motion and Green Power Institute filed a response of support in R.17-07-007. On June 13, 2019, Southern California Edison, and Electric Motor Werks, Inc. (eMotorWerks), filed responses, in both proceedings, in support of the CESA Motion. Also on June 13, 2019, American Honda Motor Company, Inc. (Honda) filed a response in R.17-07-007 supporting the CESA Motion and the Alliance of Automobile Manufacturer's (the Auto Alliance)¹ filed a response of support in R.18-12-006. The Joint Utilities (Pacific Gas and Electric Company and San Diego Gas & Electric Company) filed a response to the CESA Motion on June 13, 2019, in both proceedings, opposing the motion and describing the request as premature and unnecessary.

2. It Is Reasonable to Establish the Subgroup and Set a Scope and Schedule

As discussed below, it is reasonable to establish the V2G AC Interconnection subgroup to discuss and identify existing standards to fulfill safety requirements for the interconnection of a mobile inverter. We see the goal of the subgroup as ensuring electric vehicles can safely interconnect with the grid, which is a technical issue that directly impacts transportation electrification proceedings at the Commission. The Director of the Commission's Energy Division is authorized to facilitate the administration of the subgroup, with the first meeting scheduled to be held via conference call on September 11, 2019 beginning at 10:00 am. A final report of the subgroup shall be filed in R.17-07-007 and R.18-12-006 no later than December 6, 2019. A joint workshop in

¹ The members of the Auto Alliance are BMW Group, FCA US LLC, Ford Motor Company, General Motors Company, Jaguar Land Rover, Mazda, Mercedes-Benz USA, Mitsubishi Motors, Porsche Cars North America, Toyota, Volkswagen Group of America and Volvo Car USA. For additional information, go to <http://autoalliance.org>.

both proceedings shall be held on December 17, 2019. Post workshop comments shall be filed in R.17-07-007 and R.18-12-006 no later than January 6, 2020 and reply comments shall be filed no later than January 13, 2020. The safety standards developed through the V2G AC Interconnection subgroup will impact future transportation electrification programs and policies.

2.1. Establishing the Subgroup

In its motion, CESA states that the final Working Group 3 Report will include the recommendation to establish a technical subgroup to develop requirements for the implementation of V2G AC interconnections but CESA contends there are timing issues. CESA underscores that a proposed decision on the Working Group 3 Report is anticipated in the fourth quarter of 2019, which would result in the subgroup not beginning until early next year. CESA proposes that beginning the subgroup now could result in earlier resolution of the V2G AC interconnection issues. CESA further explains that additional months of dedicated technical discussions are needed to resolve outstanding Issue 23 questions that can be re-incorporated into the Rule 21 Working Group 3 process.

Supporting the CESA Motion, the Auto Alliance maintains that although Working Group 3 addressed bidirectional V2G as part of its Issue 23 discussion, sufficient time was not allocated to fully address interconnection of mobile inverters, a critical aspect to resolving Issue 23 in Working Group 3.² Noting that auto manufacturers face significant regulatory uncertainty around V2G integration policies, Honda argues that the V2G AC subgroup provides a

² Auto Alliance Response to CESA Motion at 2.

necessary forum but prompt action is necessary to facilitate successful transportation electrification and infrastructure investment.³

Opposing the CESA Motion, the Joint Utilities argue that the motion is premature and contend background work is necessary before forming the subgroup, including performing a comparative analysis between industry standards and identifying changes needed to industry standards.⁴ eMotorWerks highlights that by initiating the subgroup immediately, the Commission would send a signal to the electric vehicle industry that would help catalyze commercialization of V2G-capable cars.⁵

The Joint Utilities also submit it is inefficient to begin the subgroup prior to the issuance of a decision on the Working Group 3 report recommendations in R.17-07-007 and the initiation and momentum of a working group in R.18-12-006, which aims to identify and evaluate the costs and benefits of various Vehicle Grid Integration use cases.⁶ However, CESA contends that allowing the subgroup proposal to be considered alongside other Working Group 3 proposals could provide a pathway to interconnection in the first half of 2020.⁷ Further, eMotorWerks asserts that immediate establishment of the subgroup is necessary because state-funded technology demonstration projects are at risk due to this lack of an interconnection pathway for V2G AC.⁸ Again, eMotorWerks urges

³ Honda Response to CESA Motion at 4.

⁴ Joint Utilities Response to CESA Motion at 3-4.

⁵ eMotorWerks Response to CESA Motion at 5.

⁶ Joint Utilities Response to CESA Motion at 5.

⁷ CESA Motion at 8.

⁸ eMotorWerks Response to CESA Motion at 5.

that immediate establishment would send a signal to the industry that there is a clear value proposition.⁹

We find that the issues to be addressed by the AC V2G subgroup are ripe. Given the complexity of the issues and the current need for an interconnection pathway, the Commission should establish the subgroup immediately in order to ensure that vehicles can safely interconnect to the grid. Furthermore, we are encouraged by the statements of the electric vehicle manufacturers and agree that immediate establishment of this subgroup sends a positive signal to the industry. The required subgroup report discussed below will be reviewed for consideration in R.17-07-007, as this proceeding has historically addressed the technical aspects of interconnection. However, we establish the subgroup in both proceedings and require filing of the subgroup report, and subsequent comments, in both proceedings to ensure broad applicability of the subgroup's efforts.

We turn to a separate concern by the Joint Utilities. Contending that representation from the Society of Automotive Engineers or Electric Vehicle manufacturers is critical to the efficacy of the proposed subgroup, the Joint Utilities caution that only two manufacturers – Fiat-Chrysler and Honda – stated support in the working group to create the subgroup, which could signal a lack of interest by the industry.¹⁰ However, responses from Honda and the Auto Alliance, indicate support for the new subgroup. Together, these parties represent over 70 percent of all car and light truck sales in the United States; the

⁹ *Ibid.*

¹⁰ Joint Utilities Response to CESA Motion at 5.

Auto Alliance is the leading advocacy group for the auto industry.¹¹ We find that the filings and statements made by the industry represent active interest in these two proceedings and, thus, indicate probable participation in the subgroup.

2.2. Establishing a Scope and Schedule for the Subgroup

The CESA Motion recommends the scope of the subgroup begin with the mapping of existing standards from Nationally Recognized Testing Laboratories against each other (i.e., SAE J3072, US 1741).¹² CESA explains that work on the recommendation began in Working Group 3 and “resulted in productive discussions among the participation” and this work product may help inform the subgroup work.¹³ Following the mapping of the standards, the CESA Motion recommends the subgroup determine how well the existing standards can be combined to fulfill safety requirements for interconnection of a mobile inverter at one fixed point. Further, CESA suggests that if the existing standards are sufficient for safe interconnection, the subgroup may recommend that the Commission include language citing existing standards to enable Rule 21 interconnection. However, if existing standards are not sufficient, CESA suggests the sub-ground could notify the testing laboratories to inform them of these gaps in standards.¹⁴

SCE, Green Power Institute, Nuvve, the Auto Alliance and eMotorWerks do not oppose the recommended scope for the subgroup. While not specifically opposing the recommended scope, the Joint Utilities contend that prior to any

¹¹ See Auto Alliance Response to CESA Motion at 1.

¹² CESA Motion at 5 and footnote 3.

¹³ *Ibid.*

¹⁴ *Id.* at 5.

work being done on the proposed scope, the industry representatives should be responsible for conducting a comparative analysis and developing proposed modifications to existing standards. The Joint Utilities argue that it is necessary that the industry stakeholders lead these efforts.¹⁵ The Joint Utilities contend that the investor owned utilities “will not need to participate in the work effort until the changes to [standards] have been proposed.”¹⁶

We adopt the scope of the subgroup, as proposed in the CESA Motion. It is reasonable to limit the scope to these technical, non-policy issues. With respect to the Joint Utilities’ contention that they do not need to participate until the standards have been proposed, the CESA Motion stated that the work on mapping existing standards has already begun. Further, we note that the purpose of the working group meetings is to discuss the technical work that has been accomplished in between the meetings and come to consensus on the output of that work. Hence, we find participation of all parties to be crucial at every subgroup meeting.

The CESA Motion requests that the subgroup begin holding weekly meetings on June 20, 2019 and recommends a schedule that includes meeting dates, filing dates for proposals by the subgroup and related comments, and a proposed date for a workshop. CESA notes that it is open to different suggested dates and timelines.¹⁷ Both the Joint Utilities and SCE urge the Commission to limit the frequency of the subgroup meetings, expressing a concern that weekly

¹⁵ Joint Utilities Response to CESA Motion at 3.

¹⁶ *Id.* at 4.

¹⁷ CESA Motion at 5-6.

meetings do not provide parties adequate time to complete and prepare action items.¹⁸

Given the delay in time since the filing of the CESA Motion, we find it reasonable to authorize the Director of the Energy Division to host a series of subgroup meetings beginning with an initial conference call on September 11, 2019 at 10:00 am. Parties and other stakeholders may participate in the conference call by dialing 866-702-0062. When prompted, the passcode is 5444775 followed by the # sign.

We agree that bi-weekly meetings provide a more appropriate amount of time between meetings to productively prepare for subsequent meetings. Following the September 11, 2019 conference call, we authorize the Director of the Energy Division to establish and notice a V2G AC Interconnection subgroup meeting schedule that allows this structure. However, we provide the Director of the Energy Division the flexibility to schedule meetings via conference call and schedule additional meetings, if they are needed to ensure the subgroup can produce a report according to the schedule below.

Following the initial conference call, parties shall work together to develop a draft agenda for each scheduled meeting of the V2G AC Interconnection subgroup. Parties shall alternate responsibility for finalizing the draft agenda. No later than three days before each subgroup meeting, a draft agenda shall be provided to the Energy Division, with copies to the members of the subgroup.

We agree that the information from the subgroup should be considered alongside other Working Group 3 proposals. Due to a series of unforeseen circumstances, there is a delay in the schedule for R.17-07-007. Hence, we do not

¹⁸ See SCE Response to CESA Motion at 3 and Joint Utilities Response to CESA Motion at 6.

anticipate a decision on Working Group 3 until the first or second quarter of 2020. Accordingly, we find it reasonable to adopt a date of December 6, 2019 for the subgroup to file its final report in R.17-07-007 and R.18-12-006. A workshop to discuss the subgroup proposal will be held on Tuesday, December 17, 2019 in the Courtyard room beginning at 10:00 am. Post-workshop comments shall be filed in R.17-07-007 and R.18-12-006 no later than January 6, 2020 and reply comments shall be filed in R.17-07-007 and R.18-12-006 no later than January 13, 2020. These dates will allow the subgroup recommendations to be considered along with the recommendations from the Working Group 3 Report. Following Commission consideration, a final decision in R.17-07-007 will also be applicable to R.18-12-006 and all transportation electrification related activities.

IT IS RULED that:

1. The May 29, 2019 motion filed by the California Energy Storage Association requesting to establish a Vehicle to Grid Alternating Current Interconnection subgroup is granted.
2. The Vehicle to Grid Alternating Current Interconnection subgroup is established with the following scope of work: To complete the mapping of existing standards from Nationally Recognized Testing Laboratories against each other and determine how well the existing standards can be combined to fulfill safety requirements for interconnection of a mobile inverter at one fixed point. If existing standards are sufficient for safe interconnection, the subgroup may recommend that the Commission include language citing existing standards to enable Rule 21 interconnection. If existing standards are not sufficient, the subgroup should notify the testing laboratories to inform them of the gap in standards.

3. The Director of the Energy Division is authorized to host the first meeting of the Vehicle to Grid Alternating Current Interconnection subgroup via conference call on Wednesday, September 11, 2019 beginning at 10:00 am. Parties and other stakeholders may participate by calling 866-702-0062. When prompted, the passcode is 5444775 followed by the # sign.

4. The Director of the Energy Division to authorized to establish and notice a meeting schedule and facilitate the Vehicle to Grid Alternating Current Interconnection subgroup meetings.

5. Following the initial September 11, 2019 conference call, parties shall work together to develop a draft agenda for each scheduled meeting of the Vehicle to Grid Alternating Current Interconnection subgroup. Parties shall alternate responsibility for finalizing the draft agenda. No later than three days before each meeting, a draft agenda shall be provided to the Energy Division, with copies to the members of the subgroup.

6. The Vehicle to Grid Alternating Current Interconnection subgroup shall file a final report in Rulemakings 17-07-007 and 18-12-006, no later than December 6, 2019, to include recommendations for addressing the scope of issues assigned to the subgroup.

7. The Director of the Energy Division is authorized to facilitate a workshop to discuss the Vehicle to Grid Alternating Current Interconnection subgroup final report. The workshop will be held on Tuesday, December 17, 2019 beginning at 10:00 am at the Commission Headquarters located at 505 Van Ness Avenue, San Francisco, CA 94102 in the Courtyard room.

8. Post-workshop comments on the Vehicle to Grid Alternating Current Interconnection subgroup final report shall be filed in Rulemakings 17-07-007 and 18-12-006 no later than January 6, 2020 and reply comments shall be filed no later than January 13, 2020.

Dated August 23, 2019, at San Francisco, California.

/s/ KELLY A. HYMES

Kelly A. Hymes
Administrative Law Judge

/s/ JESSICA T. HECHT for

Sasha Goldberg
Administrative Law Judge

/s/ MICHELLE COOKE for

Patrick Doherty
Administrative Law Judge